

- 26 -

CLAIMS:

1. A method comprising:
delivering a pacing pulse to a heart;
detecting intrinsic ventricular activity within the heart after delivering the pacing pulse; and
extending a pacing interval between the delivered pacing pulse and a subsequently delivered pacing pulse based on the detection of intrinsic ventricular activity.
2. The method of claim 1, further comprising modifying the pacing interval to aid in detecting intrinsic ventricular activity within the heart.
3. The method of claim 2, wherein modifying the pacing interval includes modulating an atrial to ventricular pacing delay.
4. The method of claim 1, wherein the pacing pulse delivered to the heart comprises a pacing pulse delivered to a ventricle of the heart.
5. The method of claim 1, wherein the subsequently delivered pacing pulse comprises a pacing pulse delivered to a ventricle of the heart after the delivered pacing pulse.
6. The method of claim 1, wherein detecting intrinsic ventricular activity within the heart comprises comparing a past ventricular signal resulting from a past pacing pulse with a current ventricular signal resulting from a current pacing pulse.

- 27 -

7. The method of claim 6, wherein a past ventricular signal comprises a past ventricular signal that is representative of a ventricular signal where the heart is fully captured by the past pacing pulse.
8. The method of claim 6, wherein a past ventricular signal further comprises a most recent ventricular signal resulting from a most recent pacing pulse.
9. The method of claim 6, wherein comparing a past ventricular signal resulting from a past pacing pulse with a current ventricular signal resulting from a current pacing pulse comprises comparing at least one morphological characteristic of the past ventricular signal to a same morphological characteristic of the current ventricular signal.
10. The method of claim 9, wherein the morphological characteristic includes at least one of a minimum amplitude of a signal, a timing of the minimum amplitude of a signal, a maximum amplitude of a signal, a timing of the maximum amplitude of a signal, a width of a signal, a slope of a signal, a timing of the slope of a signal, T-wave timing and T-wave amplitude.
11. A device comprising:
 - at least one electrode to deliver a pacing pulse to a heart; and
 - a processor that detects intrinsic ventricular activity within the heart after delivering the pacing pulse and extends a pacing interval between the delivered pacing pulse and a subsequently delivered pacing pulse based on the detection of intrinsic ventricular activity.
12. The device of claim 11, wherein the processor modifies the pacing interval to aid in detecting intrinsic ventricular activity within the heart.

- 28 -

13. The device of claim 12, wherein the processor modifies the pacing interval modifies the pacing interval by modulation of atrial to ventricular delay.

14. The device of claim 11, wherein the electrode comprises an electrode to deliver a pacing pulse to a ventricle of the heart.

15. The device of claim 11, wherein the processor detects intrinsic ventricular activity by comparing a past ventricular signal resulting from a past pacing pulse with a current ventricular signal resulting from a current pacing pulse.

16. The device of claim 15, wherein the processor that compares a past ventricular signal that is representative of a ventricular signal where the heart is fully captured by the past pacing pulse.

17. The device of claim 15, wherein the processor compares a most recent ventricular signal resulting from a most recent pacing pulse.

18. The device of claim 15, wherein the processor compares at least one morphological characteristic of the past ventricular signal to a same morphological characteristic of the current ventricular signal.

19. The device of claim 18, wherein the processor compares at least one of a minimum amplitude of a signal, a maximum amplitude of a signal, a width of a signal, a slope of a signal, T-wave timing and T-wave amplitude.

20. The device of claim 15, further comprising a memory to store the past ventricular signal.

21. A computer-readable medium comprising instructions to cause a

- 29 -

processor to:

- control a pulse generator to deliver a pacing pulse to a heart;
- detect intrinsic ventricular activity within the heart after delivering the pacing pulse; and
- extend a pacing interval between the delivered pacing pulse and a subsequently delivered pacing pulse based on the detection of intrinsic ventricular activity.

22. The computer-readable medium of claim 21, further comprising instructions to cause the processor to modify the pacing interval to aid in detecting intrinsic ventricular activity within the heart.

23. The computer-readable medium of claim 22, wherein the instructions cause the processor to modify the pacing interval by modulation of atrial to ventricular delay.

24. The computer-readable medium of claim 21, wherein the pacing pulse delivered to the heart comprises a pacing pulse delivered to a ventricle of the heart.

25. The computer-readable medium of claim 21, wherein the subsequently delivered pacing pulse comprises a pacing pulse delivered to a ventricle of the heart after the delivered pacing pulse.

26. The computer-readable medium of claim 21, wherein the instructions cause the processor to detect intrinsic ventricular activity within the heart by comparing a past ventricular signal resulting from a past pacing pulse with a current ventricular signal resulting from a current pacing pulse.

- 30 -

27. The computer-readable medium of claim 26, wherein a past ventricular signal comprises a past ventricular signal that is representative of a ventricular signal where the heart is fully captured by the past pacing pulse.

28. The computer-readable medium of claim 26, wherein the past ventricular signal further comprises a most recent ventricular signal resulting from a most recent pacing pulse.

29. The computer-readable medium of claim 26, wherein the instructions cause the processor to compare a past ventricular signal resulting from a past pacing pulse with a current ventricular signal resulting from a current pacing pulse by comparing at least one morphological characteristic of the past ventricular signal to a same morphological characteristic of the current ventricular signal.

30. The computer-readable medium of claim 29, wherein a morphological characteristic includes a minimum amplitude of a signal, a maximum amplitude of a signal, a width of a signal, a slope of a signal, T-wave timing and T-wave amplitude.